

OFFICE OF ENERGY RESEARCH
DRAFT GUIDANCE ON EARLY TIMING AND IMPLEMENTATION OF THE NEPA PROCESS
AND INTEGRATION OF THE NEPA PROCESS WITH THE PROJECT MANAGEMENT PROCESS

I. PURPOSE AND SCOPE OF THIS GUIDANCE

The purpose of this guidance is to provide recommendations to facilitate the integration of the NEPA process into the Office of Energy Research (ER) project planning process, and to enhance the understanding of the NEPA process as an integral part of the project management process. In so doing this, the NEPA process will better achieve its intended purpose of supporting decisionmaking and protecting environmental quality. At the same time, project delays, cost increases, and project management problems can be minimized or avoided.

This guidance discusses the ER goals for an early NEPA process as well as the Council on Environmental Quality (CEQ) and DOE requirements on early NEPA timing. Also, it discusses the DOE requirements for NEPA within the DOE project management system and the CEQ definitions of when a project is a proposal that invokes the NEPA process. Also, it discusses typical NEPA schedules, a recent ER example of invoking the NEPA process early in project development, and makes some recommendations on when to plan NEPA compliance for a project. The overall objective for ER should be to use the NEPA process to support decisionmaking by factoring in the environmental consequences. The secondary objective for project managers should be to keep the NEPA compliance process off the critical path by planning for early NEPA determinations, and by setting realistic schedules for the NEPA process. This guidance is provided to help achieve those objectives.

II. ER PROJECTS AND THE NEPA PROCESS

The timing of ER's implementation of NEPA's procedural provisions sometimes has been a problem for ER's project managers. Some projects have been delayed because they did not plan for NEPA compliance or because they did not set realistic schedules for the NEPA process. These delays sometimes have increased the cost of projects, created uncertainties for project completion, and also have led to a perception that NEPA compliance is both frustrating to project managers and an impediment to project completion.

The purpose of the NEPA process is to provide environmental information to federal decisionmakers in advance of decisions and to help public officials make decisions that are based on an understanding of environmental consequences. The process (as input) is supposed to affect decisions (as output). To affect and influence decisionmaking in a realistic manner, the NEPA process must be initiated and conducted early during the planning and implementation of federal projects. The regulations implementing NEPA's procedural provisions that were promulgated by the CEQ state [in section 1508.18(b)] that federal actions tend to fall into one of four categories: adoption of policies; adoption of formal plans; adoption of programs; and approval of specific projects. The type of federal action that is most frequently proposed and conducted by the Office of Energy Research is related to the approval of specific research projects.

The same NEPA process also is designed to disclose information to the public and to involve the public in decisions related to major federal actions. For this to be accomplished effectively and contribute to decisionmaking, public involvement must be conducted in a timely manner as a part of the total NEPA process.

III. ER GOALS ON TIMING OF THE NEPA PROCESS

ER, in carrying out its NEPA responsibilities, has aimed to improve the program's environmental decisionmaking. The ER "Statement of Goals and Objectives for Adherence to the Principles of NEPA" (November 13, 1992) emphasized the timing of NEPA in its first objective: incorporation of ER environmental goals into the program planning process, along with early and timely implementation of the procedural provisions of NEPA.

The overall ER goal for timing of NEPA compliance is to start the NEPA process early in the project planning. Figure 1 illustrates the project construction planning cycle and includes the initiation of the NEPA process during the time of overall project planning, that is during project formulation, project identification, conceptual and budgeting estimates. For example, planning to make the NEPA determination at the time of project formulation assures the project manager of the identification of critical environmental and process constraints which can be planned for and addressed during the design and implementation phases of the project. Should any environmental assessment lead to the conclusion that an environmental impact statement (EIS) is needed, the project plan can schedule sufficient time for EIS completion.

IV. CEQ AND DOE REQUIREMENTS ON EARLY NEPA PLANNING

A variety of regulatory requirements and guidance have been developed and promulgated to address the issue of early NEPA planning for a project or program. The CEQ regulations for implementing NEPA's procedural provisions state that "(A)gencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values . . ." (43 CFR 1501.2). The CEQ regulations also include other statements of requirements on early implementation of the NEPA process that provide some guidance on timing:

1502.4(b): The process shall be "...timed to coincide with meaningful points in agency planning and decisionmaking." Examples might be related to ER decision points in the Project Management System under Order 4700.1, as discussed in section V below.

1502.5: The agency shall commence preparation of the NEPA document (i.e., begin the NEPA process) "...as close to the time the agency is developing or is presented with a proposal..." Examples might be related to ER's development of new mission needs (as discussed in section VII below) or related to acting on research proposals or construction grants that are congressionally initiated.

1502.5: The NEPA document "...shall be prepared early enough so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify decisions already made." When the NEPA process begins too late in the project planning or implementation, the document can end up on the project critical path. If this happens, the NEPA process can become merely a paperwork hurdle needed to proceed with the project.

1502.5(a): "For projects directly undertaken by Federal agencies the [NEPA document] shall be prepared at the feasibility analysis (go-no go) stage and may be supplemented at a later stage if necessary" (in the case of an EIS). In the case of a project under Order 4700.1, the go-no go stage would be at the new start approval stage, Key Decision # 1 (as discussed in section V below). The process of preparing a NEPA determination on the type of documentation required, however, might be able to begin earlier (as discussed in section VI B below).

DOE's requirements for early implementation of the NEPA process track along with the CEQ requirements. The DOE regulations for implementing NEPA state that DOE shall "provide for adequate and timely NEPA review of DOE proposals . . . In its planning of each proposal, DOE shall include adequate time and funding for proper

NEPA review and for preparation of anticipated NEPA documents." DOE shall "begin its NEPA review as soon as possible after the time that DOE proposes an action or is presented with a proposal" (10 CFR 1021.200).

The DOE Order on NEPA compliance, 5440.1E, requires the incorporation of NEPA milestones into project planning and budget review documents. In terms of the budget review, the DOE FY 1993 Budget Call required project data sheets to include information on NEPA compliance planning. DOE's annual validation of project budgets requires the review of the NEPA status for a project.

V. NEPA IN THE PROJECT MANAGEMENT PROCESS

A. DOE Order 4700.1 Coordination of NEPA and Project Management

The major requirements for project management planning in DOE are contained within DOE Order 4700.1 (as revised and dated June 2, 1992). This Order is extensive and contains a number of references, attachments, and provisions. To briefly summarize the relevant portions, it categorizes projects into:

- Major System Acquisition (MSAs) - MSAs are projects with costs estimated to be greater than \$100 million.
- Major Projects (MPs) - MPs are projects with costs estimated to be more than \$50 million but less than \$100 million.
- Other Projects - Other project include actions or proposals such as general plant projects (GPP) which are usually estimated to be less than \$1.2 million.

The categorization of projects is for the purpose of providing different formal levels of project management. Overall, the Order requires that all DOE projects be managed, to some degree, and to include some form of organization, planning, and control.

The Order establishes the Key Decision (KD) phases of project management planning as:

- KD #0 - Approve Mission Need
- KD #1 - Approve New Start
- KD #2 - Start Detailed Design
- KD #3 - Start Construction
- KD #4 - Start Operations

For MSA's, these key decisions require approval by the DOE Acquisition Executive after they are reviewed by the Energy Systems Acquisition Advisory Board (ESAAB). These key decision points are commonly used within DOE to set project schedules, including environmental compliance activities. Figure 2 from the DOE Order 4700.1 illustrates the relationship between environmental compliance activities and key decisions for a project.

In terms of planning for NEPA compliance within the project management system, the Order requires the NEPA milestones listed below (as appropriate) to be included in the project plan or schedule at KD #1, unless they are specifically excluded.

- Issuance of a categorical exclusion (CX)
- Submission of an environmental assessment (EA)
- Issuance of a Finding of No Significant Impact (FONSI)
- Submission of a draft Environmental Impact Statement (DEIS)
- Submission of a final Environmental Impact Statement (FEIS)
- Issuance of a Record of Decision (ROD)

1. MSA = EIS; MP = EA. To facilitate a determination of the types of NEPA documents needed for a project, the DOE NEPA regulations categorized MSAs as "Actions That Normally Require EISs"; and MPs, as "Actions That Normally Require an EA but Not Necessarily EISs". For planning purposes, project managers should assume that an EIS will be prepared for their project if it is an MSA, and should schedule the project accordingly, that is, allow for the completion of the EIS prior to KD # 2, the beginning of detailed project design.

2. Plan for an EA, but Schedule for an EIS. For projects classified as MPs, the assumption of the preparation of an EA is reasonable. However, project managers should be aware that the purpose of an EA is to assess the significance of potential environmental impacts and to determine the need for an EIS. Until a FONSI is issued, there is a possibility of the need for an EIS on the project. The project manager, therefore, should schedule the EA process and completion of a FONSI early enough in the project plan so that sufficient time would be available for an EIS, should it be necessary.

3. Cost versus Experience in NEPA Determinations. In making a NEPA determination, cost is only one of the decision factors. Some projects that are MSAs in terms of cost may be included in the list of classes of actions (in the DOE NEPA regulations) that normally require an EA (rather than an EIS). Appendix C to subpart D of the regulations lists synchrotron radiation accelerator facilities and particle acceleration facilities as projects that normally require an EA (even though some could be an MSA in terms of cost). This suggests that DOE's NEPA experience with these projects has resulted in the issuance of FONSIs. ER has, in fact, prepared EAs and received FONSIs on several such projects including: the Advanced Light Source at Lawrence Berkeley Laboratory (DOE/EA-0367); the Advance Photon Source at Argonne National Laboratory (DOE/EA-0389); the Relativistic Heavy Ion Collider at Brookhaven National Laboratory (DOE/EA-0508); the Main Injector Project at Fermilab (DOE/EA-0543); and the B-factory Asymmetric Electron Positron Collider at Stanford Linear Accelerator Center (DOE/EA-0882).

The latter two projects (Fermi Injector and B-factory) required the issuance of Proposed FONSIs in the Federal Register for 30-day public comment periods, since they were MSAs (or their cost equivalent). This was in response to the CEQ requirements [section 1501.4(e)(2)] for issuance of Proposed FONSIs in cases where the proposed action is similar to one normally requiring an EIS. Issuance of Proposed FONSIs may be the trend in the future for MSA-level ER projects that are listed as normally requiring an EA. This will extend the EA review and approval process and needs to be considered and factored into the project planning and scheduling.

In some, but not all cases, general plant projects might qualify as "Actions That Normally Do Not Require EAs or EISs" and are categorically excluded (CX) from preparation of either an EA or an EIS. The list of such projects is contained in 10 CFR 1021 Subpart D, Appendix B. Project managers should obtain DOE approval of their project as a CX as early as possible in the project so that there is no misunderstanding about the environmental effects of the project (or the need for further documentation), and the project can proceed expeditiously.

B. NEPA's Relationship to Detailed Design (KD #2)

DOE Order 4700.1 and the DOE NEPA regulations [section 1021.210(b)] have established that EIS Records of Decision (ROD) shall be completed before the initiation of detailed design work. The reason for this is to avoid risks due to prejudicing the choice of alternatives during the NEPA process (and risking potential litigation) as well as avoiding the premature commitment of resources to the project, or eliminating any alternatives. This same requirement also holds for the EA process. Detailed design cannot proceed before completion of the NEPA process (i.e., issuance of a FONSI).

In certain situations, detailed design may be initiated prior to the EIS ROD if there is a demonstration that such design work will not prejudice the choice of

alternatives under the NEPA process. Such a determination should not be a program decision but should be proposed by the program to the Office of Environment, Safety and Health (EH-1).

VI. TIME FRAMES FOR IMPLEMENTATION OF THE NEPA PROCESS

A. Environmental Assessments.

Through December 1993, ER completed 19 EAs (with approved FONSI's) on a variety of facilities and research projects. ER has monitored the preparation, review and approval process for each EA and conducted a study to determine the time-to-completion of the total NEPA process from the initial determination to the time of FONSI approval. On average, the total EA process has taken 389 days (about 56 weeks or 13 months). The EA preparation time (from determination until formal document submittal to DOE/HQ) averaged about 19-20 weeks (about 5 months). The DOE/HQ review and approval portion of the total process has taken an average of 35 weeks (245 days), with a median time of 200 days.

Six of the EAs completed thus far were for congressionally initiated construction grant projects. The times-to-completion for the EAs on these projects averaged 21 weeks (150 days) for the total process and 17 weeks (117 days) for the DOE/HQ portion of the total process. These time frames are considerably less than the overall averages noted above. This may be due, in part, to the fact that these projects are relatively small, less complicated, and lower in cost (< \$1.0M - \$28.3M) compared with some of ER's other sophisticated research facilities for which EAs have been prepared. The EAs for the six projects also were relatively brief, ranging in length from 6 to 23 pages.

The details on the elapsed time for all of ER's approved EAs can be found in "Cradle To Grave Analysis of the ER EA/FONSI Process" (contained in section 2.2 of the ER NEPA Guidance and Procedures Handbook) and in the ER "National Environmental Policy Act Program Summary for 1993 and Status Report on Continuous Improvement in NEPA Services and Products".

Delegation of EA and FONSI approval authority to the Operations Offices and Program Offices, under the Secretary's NEPA Policy Statement, will streamline the timing of the review and approval process. Overall, project managers should schedule EA preparation and completion conservatively, that is, assuming the longest time known for their type of project.

B. Environmental Impact Statements

ER does not have a established data base on EIS times because not many EIS's have been prepared by ER since SEN 15-90. Based upon other DOE program experiences, planning estimates for NEPA compliance should use an average time for EIS preparation and completion of anywhere from fifteen to forty months. Within DOE, EISs have run more than 40 months, and the time will vary according to the nature, complexity, and scope of the project. The Secretary's NEPA Policy Statement established a goal for completion of the EIS document within 15 months of the issuance of the Notice of Intent.

For project managers, the most significant factors impacting EIS schedules are those relating to the clarity of the proposed action, alternatives to the action, and the impacts of those actions on the environment. It is an axiom of NEPA practice that a project which is vaguely defined in space, time, and cost will generally take longer for its NEPA compliance than one which is clearly defined. Project managers can ensure a timely EIS process by planning the NEPA review/documentation alongside of the other project planning actions, and by consulting with the appropriate NEPA expertise early in the project planning stage to determine realistic times for NEPA documents.

The project schedule should assume an average resource loading, that is 2000 hours/yr/person for the NEPA compliance process, and should probably use the high-end estimates for the early schedules. When an EIS is needed, the EIS process itself usually requires a detailed schedule which can be factored into the overall project schedule.

C. Categorical Exclusions

The average time for CX preparation and completion should be between one and two months, and should be prepared as early as possible in the planning process.

VII. THE NEPA PROCESS IN RELATION TO DECISION POINTS

A. When Does an Action or Project Become a "Proposal"?

The CEQ regulations state (at section 1508.23) that a proposal exists at that stage in the development of an action when an agency has a goal and is actively preparing to make a decision on alternative means to accomplish the goal (i.e., a proposed action and alternatives). A proposal may exist "in fact" as well as by agency "declaration" that one exists. A proposal "in fact" could be one that is firm or real in the sense that it has some official sanction, approval, or budget to begin project planning, development, and design. A "declared" proposal could be one related to an action that has none of the official approvals to begin and probably does not yet have an approved budget. Some ER program offices have "declared" that they are going to pursue an action or project. This then led to development of a mission need statement and justification for new start under Order 4700.1.

A recent example exists in which an ER action began as a proposal "by declaration" and proceeded to become a proposal "in fact". The NEPA process for a new fusion research facility at the Princeton Plasma Physics Laboratory (PPPL) began in the ER/HQ Office of Fusion Energy prior to the official DOE approvals for new start and prior to the availability of project funds. The project is the Tokamak Physics Experiment (TPX). The early NEPA process leading to submittal of an EA (DOE/EA-0813) for approval in 1993 for the project was as follows:

<u>Date</u>	<u>NEPA Process and Project Milestones</u>	
6/22/92	Action Description Memo (ADM) written by PPPL	recommending
	preparation of EA.	
7/92	ESAAB held on proposed Key Decision #0 (mission	need).
8/20/92	ADM with request for NEPA determination	submitted
	by ER-1 to EH-1.	
9/30/92	EH-1 NEPA determination to prepare an EA.	
11/92	Key Decision #0 and FY92 funds approved by	DOE/HQ.

The TPX NEPA process began at that point when ER had "declared" that an action existed (i.e., a program goal was identified and a project was sought, but funds and official approvals were not secured). Once Key Decision #0 (approval of mission need) and the funds were approved, then the action became a proposal "in fact". Initiation of the NEPA determination process at the "declaration" stage allowed the melding of the planning and scheduling of both the NEPA and the project management processes. If the determination request had resulted in a decision to prepare an EIS, then the project schedule might have been adjusted accordingly at an early stage.

B. What are the Decision Points in Relation to the NEPA Process?

The questions often asked about NEPA for projects are: 1. What are the decisions points in the project where NEPA is needed, and 2. how early should one begin the NEPA process? The decision points for projects are those set by the project management system such as KD #1, KD #2, and other milestones such as obtaining

project funding, obtaining permits, etc. Decision points are related to the budget, schedule, technology, and program. For projects classified as MSAs, decision points are firmly established by DOE Order 4700.1. For non-MSA projects, the decision points are more flexible, varying according to the project and program. However, it is clear that a budget submission for a project represents a decision point, since it is a proposal to fund an action and convert the action from a proposal "by declaration" to a proposal "in fact". That decision point, therefore, should include some form of NEPA compliance information, such as the anticipated schedule dates for NEPA documents or the type of NEPA document planned or anticipated.

The NEPA process for most of ER's proposed actions tends to begin when there is money available and the projects are proposals "in fact". This occurs because the available funds have enabled both early design and preparation of the NEPA document. Wherever possible, however, ER needs to begin earlier and initiate the NEPA process during the "declaration" phase. This would entail initiating the NEPA determination on the type of document and review that likely would be needed, along with drafting the schedule for the NEPA process (based on the document type). The draft NEPA schedule of the NEPA process then should become a part of the project management schedule. In so doing, the NEPA process can better serve the decisionmaker, while enabling the project manager to gain more control of the NEPA process and to complete it in a timely manner.

NEPA milestones can be integrated into the budget process by the addition of dates for NEPA determinations on the Schedule 44 FY Congressional Budget Request Project Data Sheets, prepared for the two outyear budget estimates. Once a determination is made on the type of NEPA document required, the project manager should schedule the preparation of NEPA documents to begin as soon as possible, usually once the current year budget is approved for that project. A project that was not planned in previous budget years but that is then approved for the current year due to Congressional action should be handled on a different basis for NEPA compliance than those projects planned for in previous budget years. ER begins the NEPA determination process on these grants (or Congressionally-initiated projects) when they appear in the DOE congressional budget appropriations for the current fiscal year.

In answer to the question as to how early to begin NEPA, the NEPA process should begin, at the latest, during the early planning phases for a project, that is, when the project is identified and conceptual planning is beginning. If the project will require an EIS, DOE regulations require the completion of the EIS prior to the initiation of KD #2, that is, detailed design.

VIII. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, it is recommended that ER program and project managers follow a strategy for NEPA compliance to initiate and plan the process early by following the steps below.

A. Early NEPA Planning. Plan for early NEPA compliance by coordinating NEPA determinations and milestones with the timing of the budget process. Whenever possible, begin the determination process and NEPA schedule prior to budget submittal when the action is a "declared" proposal.

B. Use Existing Experience and Expertise. Consult with appropriate site and program NEPA experts early in the project life-cycle to help determine the type of NEPA document and overall milestones for the NEPA process. Consult the "Annotated Bibliography of NEPA EAs and EISs" in section 13.0 of the ER NEPA Guidance and Procedures Handbook for examples of ER projects that have required EAs, adopted EAs, EISs, and EIS Supplement Analyses.

C. Use Realistic Schedules for NEPA Documents. Use the DOE and ER experience-to-date on the times-to-completion for the preparation, review and approval of the various NEPA document types. See sections 2.2 and 13.0 of the ER NEPA Guidance

and Procedures Handbook for examples of the time frame experience. Also, utilize the "Energy Research Project NEPA Environmental Assessment Schedule" form for developing a schedule for new EAs. A copy of this form is attached.

C. Integrate NEPA Planning Into Overall Project Planning. After development of the NEPA schedule, overlay it upon the project management schedule and meld the two together, so that the required NEPA milestones (i.e., leading to a FONSI or ROD) will be completed well ahead of the detailed design decision point (KD#2).

Such planning and consultation will go a long way towards reducing project uncertainties over NEPA compliance and will provide project managers with more control of the total project, including the NEPA process. It will reduce the risks that the NEPA process will enter the critical path and delay the project. In so doing, this will enable better decisionmaking and environmental stewardship.

FIGURE 1: PROJECT PLANNING PROCESS

FIGURE 2: RELATIONSHIP OF ENVIRONMENTAL COMPLIANCE ACTIVITIES TO
PROJECT DECISION POINTS